

Machine Safety

Chapter 296-806 WAC

Index

A

Abrasive wheels

(See also Requirements for all machines)

all requirements, **405-5-16**

blotters, **405-16**

definitions, **500-1-23**

design and construction, **405-5**

flanges, **405-13-15; 500-8**

guard requirements, **405-6-8**

mounting, **405-12**

ring test, **405-11**

tongue guard, **405-9; 500-20**

types and illustrations, helpful tool, **R-7**

use, **405-11**

work rest, for off-hand grinding, **405-10**

Access

mobile conveyors, **420-21**

doors and covers, compactors, **415-4**

conveyors, safety, **420-8**

Adjustable barrier guard, mechanical power presses, **455-9**

Adjusting or repairing machinery, **200-7**

Air conditioning units, food processing, **425-7**

Alterations, conveyors, **420-9**

ANSI requirements

chipper mills, **480-31**

forging machines, pressure pipes, **430-12**

mechanical power presses, **455-5**

Antifriction-bearing casters, food processing equipment, **425-15**

Arbors and mandrels, fitting, **300-1**

Automatic cycling controls, compactors, **415-4**

Automatic saws, **480-16**

B

Backstop, or anti-runaway devices, conveyors, **420-9**

Bag lifts (bag arm elevators), **425-11**

Bakery slicers, food processing, **425-14**

Bakery wrapping machines, food processing equipment, **425-14-15**

Band saws, **480-27**

Barrels, revolving, safeguarding, **300-16**

Barricades, safe distance from hazard, **200-22-24**

Barrier guards

all requirements, **200-13-15**

devices, **200-21**

mechanical power press, **455-9**

Bearings

power transmission equipment, **200-8**

supports, belt or rope drives, **300-5**

Belt, rope, or pulley drives

all, **300-2-8**

conveyors, **420-14-16**

Belt sanders, safeguarding methods, **475-4**

Blotters, abrasive wheels, **405-16**

Board hammers, forging machines, **430-12**

Bolts, protruding on moving surfaces, **200-12**

Boring machines, saws and cutting heads, **480-30**

Box and roll-type dough sheeters, **425-31**

Bread coolers, rack-type, **425-7**

Burrs, moving surfaces, **200-12**

C

Calenders, **410-2-4; R-29**

(See also Requirements for all machines)

Cams, safeguarding, **300-9**

Chain and sprocket drives, safeguarding, **300-10**

Chain conveyors, **420-17-18**

Chain tackle, food processing, **425-12**

Chapter application, scope, **100-1**

Chip control and handling, lathes, **450-4**

Chipper and hog mills, **480-32**

Chipper mills, saws and cutting heads, **480-31**

Chocolate melting, refining, and mixing, food processing equipment, **425-22**

Chucks (See work-holding devices (chucks))

Chutes

conveyors, **420-12**

food processing, **425-11**

Circular resaws, **480-15**

Circular saws

(See also Requirements for all machines)

all, **480-9-15**

gages, **480-9**

guarding hand-fed saws, exemption, **480-10**

miter, **480-17-18**

radial, **480-19-21**

ripping (definition), **500-17**

ripsaws, hand-fed, **480-12-13**

meat cutting, food processing, **425-23**

circular, requirements for all, **480-9-15**

self-feed, **480-14**

swing (jump) saws, **480-16-17**

Clearances, towed conveyors, **420-27**

Index

Index

<http://www.lni.wa.gov/>

IN-1

01/05

Machine Safety

Chapter 296-806 WAC

Index

Clothing requirements when lubricating moving machinery, **200-9**

Clutch handle, belt shifter, **300-6-8**

Collars, revolving, **300-19**

Comb, **480-7**

Compactors

(See also Requirements for all machines)

all, **415-1-4**

automatic cycling controls, **415-4**

controls, **415-3**

doors, access and covers, **415-4**

general requirements, **200-1-25**; **300-1-19**

operations, **415-2**

stationary, **415-2**

Connecting rods, safeguarding, **300-9**

Containers, revolving, safeguarding, **300-16**

Controls

calenders, safety, **410-2-3**

compactors, **415-3-4**

emergency stop, **200-4**

foot operated, **200-4**

machine vibration, **200-5**

operating, **200-3**

Conveyors

(See also Requirements for all machines)

access, safe, **420-8**

all, **420-1-28**

alterations, **420-9**

backstop, or anti-runaway devices, **420-9**

chain, **420-17-18**

chutes, **420-12**

controls, labeling, **420-7**

design and construction, **420-6**

elevator, **420-18**

emergency stops, **420-6-7**

food processing, **425-12-13**

guards, spill, **420-10**

guideposts, **420-13**

hoppers, **420-12**

inspection, **420-9**

mobile, **420-20-21**

overland belt, **420-15-16**

projections, marking, **420-28**

pusher-bar, **420-21**

replacing parts, **420-10**

riding, prohibiting, **420-8**

roller, **420-22-23**

screw, **420-24**

shakers, **420-19**

shuttle, **420-19**

skip hoists, **420-25**

slat and roller-slat, **420-26**

spill guards, **420-10**

towed, **420-26-28**

Counterweights, safeguard, **300-19**

Coverings, lathes, **450-6**

Coverings, storage bins, food processing, **425-10**

Cross-roll brakes, food processing, **425-17**

Cutting heads

(See also Requirements for all machines)

all requirements, **480-1-42**

boring machines, **480-30**

chipper mills, **480-31**

general requirements, for all, **480-29**

hog mills, **480-32**

jointers, **480-33-34**

matching machines, **480-34**

molding machines, **480-34**

mortising machines, **480-30**

panel raisers & other similar machines, **480-35**

planers, **480-35-37**

shapers, **480-38**

sticking machines, **480-34**

tenoning machines, **480-39**

veneer machines, **480-40-42**

Cylinder draining, forging machines, **430-11**

Cylinder grinder, abrasive wheels, **405-9**

Cylinder head, forging machines, **430-10**

D

Dadoing, saws and cutting heads, **480-7**

Definitions, all, **500-1-23**

Design and construction

abrasive wheels, **405-5**

conveyors, **420-6**; **425-13**

jointers, **480-33-34**

mechanical power presses, **455-5**

ovens, **425-28**

pulleys, **300-15-16**

Machine Safety

Chapter 296-806 WAC

Index

Detector, mobile conveyors, **420-21**

Devices

- all requirements, **200-16-21**
- barrier guards, **200-21**
- light curtains, **200-17**
- mechanical power presses, **455-10-11, 14-16**
- pressure-sensitive mats, **200-18**
- restraint or pullback, **200-19**
- two-hand, **200-20**

Die keys and shims, forging machines, **430-10**

Die machine, food processing, **425-30**

Dies, mechanical power presses, **455-19-20**

Disk sanders, sanding machines, safeguarding methods, **475-2**

Distance

- all machines, **200-22-24**
- from hazard to guard (A), illustration, **200-15**
- safe, press brakes, **465-4-8**

Dividers, food processing equipment, **425-16**

Double arbor saws, **480-24**

Dough-related equipment, food processing

- brakes, **425-17-18**
- mixers (horizontal), **425-24-25**
- sheeters, box and roll-type, **425-31**

Doughnut machines, food processing equipment, **425-18**

Drag saws, **480-28**

Drilling/boring machine, **480-30; 500-7**

Drip cups and pans, securing, **200-9**

Drum sanders, sanding machines, **475-3**

Drums, revolving, safeguarding, **300-16**

Dumpbin and blenders, food processing, **425-19**

E

Elevator conveyors, **420-18**

Emergency stop controls

- all machines, **200-4**
- belt conveyors, **420-15**
- conveyors, general requirements, **420-6**
- ovens, food processing, **425-29**

Employee protection

- adjusting, repairing machinery, **200-7**
- belt and pulley drives, **300-6**
- chipper mills, **480-31**
- falling objects, **200-11**
- flying objects, **200-11**
- hazards, **200-1**

hog mills, **480-32**

lubricating moving machinery, **200-9**

machinery, **200-1**

moving surfaces with hazards, **200-12**

nip or shear point, **200-10**

point of operation, **200-10**

reciprocating or other moving parts, **200-11**

rotating or revolving parts, **200-11**

unintentional machine operation, **200-4**

Emulsifiers, premixers, and similar machines, food processing equipment, **425-21**

Equipment, overspeed, **200-5**

Exemptions

- belt and rope drives, safeguarding methods, **300-2**
- belt shifter, **300-6**
- boring and mortising machines, **480-30**
- calenders, **410-2**
- chain guards, **300-10**
- chipper mills, **480-31**
- circular saws, guarding, **480-12-13**
- drum sanders, **475-3**
- fan blades, **300-11**
- flywheels, **300-12**
- food processing equipment, **425-10**
- gears, **300-13**
- projections on moving parts, **300-14**
- pulleys, **300-15**
- sewing machine needles, **485-1-2**
- shafting, safeguarding methods, **300-17**
- spreaders, **480-15**
- storage bins, **425-10**

Extension piping, food processing equipment, **425-8**

Extension piston rods, safeguarding, **300-9**

F

Facilities, food processing equipment

(See also Requirements for all machines)

exposed hot pipes, **425-8**

fermentation room, **425-7**

locks, chamber doors, **425-7**

lubrication fittings, stationary, **425-8**

pan washing tanks, exemption, **425-8**

proof boxes, **425-9**

rack-type bread coolers, **425-7**

storage bins, **425-10**



Machine Safety

Chapter 296-806 WAC

Index

- Falling objects, **200-11**
- Fan blades safeguard, **300-10-11**
- Fat kettles, food processing equipment, **425-10, 22**
- Featherboard, **480-7; 500-7**
- Feed rolls, planers, **480-36**
- Feed rolls, sanding machines, **475-4**
- Fences
 - definition, **500-7**
 - saws and cutting heads, **480-33**
- Fermentation room, food processing equipment, **425-7**
- Fixed barriers, safeguarding by distance, **200-23**
- Flanges, abrasive wheels, **405-13-15**
- Floor coverings, **200-1**
- Floorstand grinders, abrasive wheels, **405-9**
- Flour-handling machines, food processing, **425-20**
- Flour scales, food processing, **425-20**
- Flour sifters, food processing, **425-31**
- Flying objects
 - all machines, **200-11**
 - safeguarding, **200-11**
- Flywheels, safeguarding, **300-12**
- Food grinders and cutters, **425-21**
- Food processing equipment
 - (See also Requirements for all machines)
 - air conditioning units, **425-7**
 - all, **425-1-32**
 - bag lifts (bag arm elevators) **425-11**
 - bakery slicers, **425-14**
 - bakery wrapping machines, **425-14-15**
 - bread coolers, rack-type, **425-7**
 - chain tackle, **425-12**
 - chocolate melting, refining, and mixing machines, **425-22**
 - chutes, **425-11**
 - conveyors, **425-12-13**
 - cross-roll brakes, **425-17**
 - design and construction, **425-28**
 - dividers, **425-16**
 - dough brakes, **425-17-18**
 - dough sheeters, box and roll-type, **425-31**
 - dough mixers, horizontal, **425-24-25**
 - doughnut machines, ventilation, **425-18**
 - dumpbin and blender, **425-19**
 - emergency stop controls, **425-29**
 - fat kettles, **425-10, 22**
 - fermentation room, **425-7**
 - flour-handling machines, **425-20**
 - flour scales, **425-20**
 - flour sifters, **425-31**
 - food grinders and cutters, **425-21**
 - hand trucks, **425-13**
 - lubrication fittings, **425-8**
 - manually-fed dough and cross-roll brakes
 - safeguarding methods, **425-17**
 - material handling bag lifts (bag arm elevators)
 - design and construction, **425-11**
 - meat-processing equipment (circular meat-cutting saws), **425-23**
 - moulders, hand-fed, **425-28**
 - moulders, mechanical-feed, **425-27**
 - ovens, **425-28-29**
 - pallet jacks & hand trucks, **425-13**
 - pan-washing tanks, **425-8**
 - peanut-cooling trucks, **425-30**
 - pipes, hot & exposed, **425-8**
 - premixers, emulsifiers, and other similar machines, **425-21**
 - pretzel rolling, **425-30**
 - proof boxes, **425-9**
 - pulverizers, sugar & spice, **425-32**
 - requirements for all machines, **200-1-25; 300-1-19**
 - reversible dough brakes, **425-18**
 - screw conveyors (augers), **425-13**
 - stationary lubrication fittings, **425-8**
 - steam kettles, **425-22**
 - storage bins, **425-10**
 - track-type flour scales, **425-20**
 - troughs, **425-15**
 - vertical mixers, **425-26**
- Foot-operated controls, **200-4**
- Forging machines
 - (See also Requirements for all machines)
 - all, **430-1-13**
 - ANSI requirements, pressure pipes, **430-12**
 - board hammers, securing, **430-12**
 - cylinder draining, **430-11**
 - cylinder head, **430-10**
 - die keys and shims, **430-10**
 - hammers, **430-5, 8, 10-12**
 - inspection and maintenance, **430-5**

Machine Safety

Chapter 296-806 WAC

Index

lead and lead casts, **430-4**
presses, **430-5, 8**
pressure pipes, **430-12**
saws, sparks, **430-13**
scale, removing, **430-8**
shut-off valve, **430-11**
specific requirements, table **430-3**
strengths and dimensions, table, **430-6**
tongs, **430-7**
valves and switches, **430-9**

G

Gages, circular saws, **480-9**
Garbage (waste) disposal equipment, **435-1-2**
Gears, requirements for all machines, **300-13**
Glue spreaders, **440-1-2**
General requirements
 abrasive wheels, **405-5-10**
 circular saws, all, **480-9-15**
 conveyors, **420-6-13**
 cutting heads, **480-29**
 forging machines, **430-4-9**
 machines, all, **200-1-9**
 saws, **480-8**
 saws & cutting heads, all, **480-7**
Gloves, machinery, **200-19**
Glue spreaders, **440-1-2**
Grating, shuttle conveyors, **420-19**
Grease guns, **200-9**
Grooving, saws and cutting heads, **480-7**
Guard openings, safeguarding methods, **200-14**
Guard radial saws, illustration, **480-20**
Guard requirements, table, **405-8**
Guarding
 chain conveyors, **420-18**
 pusher bar conveyors, **420-21**
 nip points, roller conveyors, **420-23**
 wheels and rails, mobile conveyors, **420-20**
Guardrails
 abrasive wheels, **405-6-8**
 general requirements, all machines, **200-13-15**
 safeguarding by distance, **200-25**
 spill, conveyors, **420-10**
 tongue, abrasive wheels, **405-9**
 used for safeguarding, **200-25**

Guards

abrasive wheels, **405-6-9**
all machines, **200-13-15**
barrier, **200-21**
conveyors, **420-10**
dough brakes, food processing
 equipment, **425-18**
glue spreaders, **440-1-2**
mechanical power presses, **455-8-9**
metal lathes, **450-3**

Guideposts, conveyors, **420-13**

Guide posts, mechanical power presses, **455-6**

Guillotine cutters, **480-41-42**

H

Hammers, forging machines, **430-5-8**

Hand-feeding and retrieval tools, **200-6**

Hand trucks, food processing, **425-13**

Hazards

circular saws, **480-16**
definition, **500-10**
drag saws, **480-28**
employee protection, **200-1**
falling objects, **200-11**
flying objects, **200-11**
guideposts, mechanical power presses, **455-6**
mobile conveyors, **420-20**
moving surfaces, **200-12**
nip or shear point, **200-10**
point of operation, **200-10**
reciprocating or other moving parts, **200-11**
rotating or revolving parts, **200-11**
slipping, **200-1**
work areas, **200-2**

Hog, definition, **500-10**

Hog mills, **480-32**

Helpful tools

abrasive wheel illustrations, **R-7**
calender stopping distance chart, **R-29**
mills stopping distance chart, **R-33**
ring test, **R-3**

Hoists, skip, **420-25**

Hoppers and chutes, conveyors, **420-12**

Horizontal cutting head, planers, **480-35**

Horizontal dough mixer, food processing,



Machine Safety

Chapter 296-806 WAC

Index

425-24-25

Horizontal lathes, **450-5**

Hot pipes, food processing equipment, **425-8**

I

Illustrations

distance from hazard to guard (A),
200-15

guard radial saws, **480-20**

how to measure variables for table
200-24

miter saw guarding, **480-18**

return-belt idlers, **420-14**

ripping with a radial arm saw, **480-23**

Inclined reciprocating conveyors (shakers),
loading, **420-19**

Inspection

conveyors, **420-9**

ovens, **425-29**

power transmission parts, **200-8**

press brakes, **465-7**

Inspection and maintenance

forging machines, **430-5**

mechanical power presses, **455-23**

Interlocked barrier guard, mechanical power
presses, **455-9**

Intermediate rail, guardrails, **200-25**

Inverted swing (jump) saws, **480-16-17**

Ironworkers

(*See also* Requirements for all machines)

adjustable restrictors, **445-2**

all, **445-2**

point of operation, **445-2**

J

Jointers, **480-33-34**

K

Kettles, food processing

chocolate melting, refining, & mixing, **425-22**

fat, **425-22**

steam, **425-22**

Keys on moving parts, **300-14**

Keyways, unused, **300-18**

Kickback protection

circular saws, hand-fed, **480-12-13**

planers, **480-37**

radial saws, **480-22-23**

Knives and cutting heads, **480-29**

L

Labeling, controls

compactor, **415-3**

conveyors, **420-7**

Lathes

(*See also* Requirements for all machines)

all, **450-1-7**

metal, **450-3-5**

woodworking, **450-6-7**

Lead and lead casts, forging machines, **430-4**

Light curtains, **200-17**

Loading, inclined reciprocating conveyors (shakers),
420-19

Locks, chamber doors, food processing equipment,
425-7

Locks or latches, storage bins, **425-10**

Lubrication

bearings, power transmission parts, **200-9**

fittings, food processing, **425-8**

moving machinery, **200-9**

M

Machine initiation, roll forming and bending machines,
470-2

Machine restarting, power failure, **200-4**

Machine vibration, controls, **200-5**

Machinery

adjusting or repair, **200-7**

drip cups and pans, **200-9**

lubricating, **200-9**

removing material, **200-7**

veneers, **480-41-43**

Machines

controls, operating, **200-3**

emergency stop controls, **200-4**

foot-operated controls, **200-4**

overspeed, **200-5**

power transmission parts, **200-8**

restarting after power failure, **200-4**

safeguarding, **200-10-12**

Machine Safety

Chapter 296-806 WAC

Index

- securing, **200-1**
 - slipping hazards, **200-1**
 - tools, hand feeding and retrieval, **200-6**
 - unintentional activation, **200-4**
 - vibration, **200-5**
 - work area for material handling, **200-2**
 - Maintenance
 - forging equipment, **430-5**
 - knives and cutting heads, **480-29**
 - machinery lubricating, **200-9**
 - power presses, **455-23**
 - Mandrels and arbors, **300-1**
 - Manlift, **425-11; 500-12**
 - Manually-fed dough and cross-roll brakes, safeguarding methods, **425-17**
 - Manufacturer specifications, conveyor parts, **420-10**
 - Marking projections, towed conveyors, **420-28**
 - Matching machines, **480-34**
 - Material handling, food processing equipment
 - bag lifts (bag arm elevators), food processing equipment, **425-11**
 - chain tackle, food processing equipment, **425-12**
 - hand feeding and retrieval tools, **200-6**
 - removing from machine, **200-7**
 - work area, **200-2**
 - Mats, presence-sensing devices, **200-18**
 - Maximum exposure angle
 - abrasive wheels, **405-7-8**
 - definition, **500-13**
 - Meat-processing equipment, food processing equipment, **425-23**
 - Mechanical, belt shifter, **300-6-8**
 - Mechanical-feed moulders, **425-27**
 - Mechanical power presses
 - (See also Requirements for all machines)
 - all, **455-1-24**
 - barrier guards, adjustable, **455-9**
 - barrier guard, interlocked, **455-9**
 - design and construction, **455-5**
 - dies, **455-19-20**
 - guideposts, **455-6**
 - inspection and maintenance, **455-23**
 - operations, **455-19-24**
 - point-of-operation, **455-7-10, 17-18**
 - presence-sensing devices, **455-11-12**
 - PSDI (Presence Sensing Device Initiation), **455-24**
 - pull-back devices, **455-13**
 - restraint (holdout) devices, **455-14**
 - tool use, **455-22**
 - train press operators, **455-21**
 - two-hand control devices, **455-15**
 - two-hand trip devices, **455-16**
 - unitized tooling, **455-6**
 - Metal lathes, **450-3-5**
 - Midrails, guardrails, **200-25**
 - Mills, **460-1-4, R-33**
 - Minimum safety distance, presence-sensing devices, formula, **455-11**
 - Miter saws, **480-17-18**
 - Mixers, food processing
 - horizontal dough, **425-24-25**
 - vertical, **425-26-27**
 - Mobile conveyors, **420-20-21**
 - Molding machines, **480-34**
 - Mortising machines, **480-30**
 - Moulders, food processing
 - hand-fed, **425-28**
 - mechanical-feed, **425-27**
 - Mounted, above table, swing saws, **480-25-26**
 - Mounting
 - abrasive wheels, **405-12**
 - arbors and mandrels, **300-1**
 - between flanges, **405-13**
 - flanges, **405-14**
 - Moving
 - carts, protection, towed conveyors, **420-27**
 - machinery, lubricating, **200-9**
 - parts, projections, **200-11; 300-14**
 - surfaces, with hazards, **200-12**
- ## N
- Nip or shear point
 - belt and pulley drives, **300-6-8**
 - belt conveyors, **420-14**
 - belt-driven live roller conveyors, **420-23**
 - belt sanders, **475-3**
 - hazards, **200-10**
 - mobile conveyors, **420-20**
 - roll-forming & bending machines, **470-2**
 - safeguarding, **200-10**

<http://www.lni.wa.gov/>

Index



IN-7

01/05

Machine Safety

Chapter 296-806 WAC

Index

O

Oil cans, **200-9**
Openings, guarding conveyors, **420-12**
Operating controls, **200-3**
Operation, unintentional, **200-4**
Operations
 calenders, **410-4**
 compactors, **415-2**
 controls, **200-3**
 mechanical power presses, **455-21**
 tools, equipment, overspeed, **200-5**
 unintentional, **200-4**
Ovens, **425-28-29**
Overhead belts, **300-4**
Overland belt conveyors, **420-15**
Overspeed tools and equipment, **200-5**

P

Pallet jacks, food processing, **425-13**
Panel raisers & other similar machines, saws
 and cutting heads, **480-35**
Pan-washing tanks, food processing, **425-8**
Peanut-cooling trucks, food processing,
 425-30
Pedestal grinders, abrasive wheels, **405-9**
Pedestrian overpasses, conveyors, **420-11**
Pipes, hot and exposed, food processing, **425-8**
Piston rods, extension, **300-9**
Planers, saws and cutting heads
 horizontal cutting head, **480-35**
 kickback protection, **480-37**
 safeguarding, **480-36**
Point of operation
 definition, **500-15**
 ironworkers, **445-2**
 mechanical power presses, **455-7-10, 17-18**
 press brakes, **465-3-4**
 safeguarding, **200-10**
Portable Power Tools
 see Chapter 296-807 WAC (*another book*)
Power-clamping devices, lathes, **450-4**
Power-driven, guillotine cutters, **480-41-42**
Power failure, machine restarting, **200-4**

Power transmission parts, **200-8; 500-15**
Premixers, emulsifiers and similar machines, food
 processing equipment, **425-21**
Presence-sensing devices
 mats, **200-18**
 mechanical power presses, **455-11**
Press brakes
 (*See also* Requirements for all machines)
 all, **465-1-8**
 general requirements, **465-3-4**
 safe distance safeguarding, **465-4-8**
Presses, forging machines, **430-5-8**
Pressure pipes, forging machines, **430-12**
Pressure-sensitive mats, **200-18**
Pretzel, food processing equipment
 rolling machine, **425-30**
 stick extruding machine, **425-30**
Profile lathes and swing-head lathes, **450-6**
Projections
 moving parts, **300-14**
 moving surfaces, **200-12**
Proof boxes, food processing equipment, **425-9**
PSDI (Presence Sensing Device Initiation) mechanical
 power presses, **455-24**
Pull-back devices, mechanical power presses, **455-13**
Pullback or restraint devices, **200-19**
Pulleys
 all, **300-15-16**
 belt and pulley drives, **300-6-8**
Pulverizers, sugar & spice, food processing, **425-32**
Pusher bar conveyors, **420-21**

R

Rabbeting, saws and cutting heads, **480-7**
Rack-type bread coolers, **425-7**
Radial saws, **480-19-23**
Rated speed, **200-5**
Reciprocating or other moving parts, safeguarding
 methods, **200-11**
Repairing machinery, **200-7**
Replacement parts, conveyors, **420-10**
Requirements for all machines
 adjusting or repairing machinery, **200-7**
 all requirements, **200-1-25; 300-1-19**
 devices, **200-16**

Machine Safety

Chapter 296-806 WAC

Index

- emergency stop controls, **200-4**
 - falling objects, **200-11**
 - flying objects, **200-11**
 - hazards, moving surfaces, **200-12**
 - inspect powered transmission parts, **200-8**
 - lubricating moving machinery, **200-9**
 - machine vibration, **200-5**
 - nip or shear point hazards, **200-10**
 - operating controls, **200-3**
 - overspeed conditions, **200-5**
 - power transmission parts, **200-8**
 - protect employees from slipping hazards, **200-1**
 - rotating or revolving parts, **200-11**
 - safeguarding from point of operation, **200-10**
 - secure machines, **200-1**
 - unintentional machine operations, **200-4**
 - work areas, avoid hazards, **200-2**
 - Restraint (holdout) devices, mechanical power presses, **455-14**
 - Restraint or pullback, devices, **200-19**
 - Restrictors, adjustable, ironworkers, **445-2**
 - Retrieval tools, **200-6**
 - Return-belt idlers, illustration, **420-14**
 - Return strands, chain conveyors, **420-17**
 - Reversible dough brakes, food processing, **425-18**
 - Revolving
 - collars, **300-19**
 - drums, barrels, and containers, **300-16**
 - parts, **200-11**
 - saws, double arbor, **480-24**
 - Riding, prohibiting, controls, **420-8**
 - Ring test, abrasive wheels, **405-11**; **R-3**
 - Ripping, rip saws, **480-12-14**, **22-23**
 - Ripping with a radial arm saw, illustration, **480-23**
 - Riving knife, **480-12**
 - Riving knife or spreaders, circular resaws, **480-12**
 - Rods, safeguarding, **300-9**
 - Roll forming and bending machines
 - (See also Requirements for all machines)
 - all, **470-1-2**
 - machine initiation, **470-2**
 - nip points, safeguarding, **470-2**
 - Roller conveyors, **420-22-23**
 - Rope or belt drives, **300-2-5**
 - Rotary machine, food processing, **425-30**
 - Rotating or revolving parts
 - collars, **300-19**
 - drums, barrels, and containers, **300-16**
 - safeguarding, **200-11**
- ## S
- Safe designs for fixed barricades, **200-22-24**
 - Safe distance, press brakes
 - inspections, **465-7**
 - safeguarding methods, **465-4**
 - safeguarding program, **465-5**
 - training, **465-5-6**
 - Safeguarding
 - falling objects, **200-11**
 - flying objects, **200-11**
 - moving surfaces, **200-12**
 - nip or shear points, **200-10**
 - point of operation, **200-10**
 - power transmission parts, **200-8**
 - reciprocating or other moving parts, **200-11**
 - rotating or revolving parts, **200-11**
 - Safeguarding, guards, **200-13-15**
 - Safeguarding methods, all, **200-13-25**
 - Safeguarding devices
 - all, **200-16-21**
 - barrier guards, **200-21**
 - light curtains, **200-17**
 - pressure-sensitive mats, **200-18**
 - pullback or restraint, **200-19**
 - two-hand, **200-20**
 - Safeguarding distances
 - definition, **500-17**
 - general requirement, **200-22**
 - guardrails, **200-25**
 - Safety aids, auxiliary, press brakes, **465-3**
 - Safety controls
 - calenders, **410-2-3**
 - machinery, **200-7**
 - mills, **460-3-4**
 - Safety guards, abrasive wheels, **405-6-9**
 - Sanding machines
 - (See also Requirements for all machines)
 - all, **475-1-3**
 - belt sanders, **475-4**
 - disk sanders, **475-3**



Machine Safety

Chapter 296-806 WAC

Index

- drum sanders, **475-2**
 - feed roll guarding, **475-3**
 - Saws, circular
 - (See also Requirements for all machines)
 - all, **480-8-15**
 - gages, **480-9**
 - hand-fed, **480-12**
 - resaws, **480-15**
 - self-feed saws, **480-14**
 - Saws, general requirements for all, **480-7-8**
(See also Requirements for all machines)
 - Saws, specific types
(See also Requirements for all machines)
 - automatic, **480-16**
 - band, **480-27**
 - drag, **480-28**
 - inverted swing (jump), **480-16-17**
 - miter, **480-17-18**
 - radial, **480-19-23**
 - revolving double arbor, **480-24**
 - swing, **480-24-26**
 - Scale removal, forging machines, **430-8**
 - Scope, chapter application, **100-1**
 - Screw conveyors, **420-24**
 - Screw conveyors (augers),
 - food processing, **425-13**
 - Secure machine, **200-1**
 - Securing
 - belt tighteners, **300-8**
 - board hammers, **430-12**
 - drip cups and pans, **200-9**
 - machines, **200-1**
 - shafting, **300-18**
 - Self-feed, circular saws, **480-14**
 - Sewing machine, **485-1-2**
(See also Requirements for all machines)
 - Shafting, **300-17-18**
 - Shakers, inclined reciprocating conveyors, **420-19**
 - Shapers, saws and cutting heads, **480-38**
 - Sharpening, saws and cutting heads, **480-7**
 - Shear points
 - safeguard, **200-10**
 - screw conveyors, **420-24**
 - Sheeters, box & roll-type dough, food processing, **425-31**
 - Shims and die keys, forging machines, **430-10**
 - Shut-off valve
 - forging machines, **430-11**
 - ovens, **425-29**
 - Shuttle conveyors, **420-19**
 - Skip hoists, conveyors, **420-25**
 - Slat and roller slat conveyors, **420-26**
 - Slipping hazards, **200-1**
 - Specific requirements, forging machines, table, **430-3**
 - Spill guards, conveyors, **420-10**
 - Spokes, flywheels, **300-12**
 - Sprockets, safeguarding, **300-10**
 - Spreaders
 - circular resaws, **480-15**
 - glue, **440-2**
 - Stationary lubrication fittings, food processing equipment, **425-8**
 - Stationary safety ladder, **425-10**
 - Steam kettles, food processing equipment, **425-22**
 - Sticking machines, **480-34**
 - Stopping limits
 - calenders, **410-4**
 - mills, **460-4**
 - Storage bins, food processing equipment, **425-10**
 - Swing saws, **480-24-26**
 - Switches and valves, forging machines, **430-9**
- ## T
- Tables
 - fixed barriers, safeguarding by distance, **200-2**
 - forging machines, specific requirements, **430-3**
 - forging machines, strengths and dimensions, **430-6**
 - hammers and presses, strengths & dimensions, **430-6**
 - guard requirements, **405-7-8**
 - guard openings, safeguarding methods, **200-14**
 - safe distances from fixed barriers, **200-23**
 - Table saws
 - circular, guarding, **480-10**
 - ripsaw, nonkickback protection, **480-12**
 - Tail rods, safeguarding, **300-9**
 - Tenoning machines, saws & cutting heads, **480-39**
 - Toe boards, **200-25**

Machine Safety

Chapter 296-806 WAC

Index

Tongs, forging machines, **430-7**
Tongue guard, abrasive wheels, **405-9**
Tool use, mechanical power presses, **455-22**
Tooling, unitized, mechanical power presses, **455-6**
Tools
 hand feeding and retrieval, **200-6**
 lubricating moving machinery, **200-9**
 overspeed, **200-5**
Top rails, guardrails, **200-25**
Tow pin, towed conveyors, **420-26**
Towed conveyors, **420-26-28**
Track-type flour scales, food processing, **425-20**
Train press operators, mechanical power presses, **455-21**
Travel, radial saws, **480-21**
Tread plates, **420-22**
Trip controls, calenders, **410-2-3**
Troughs, food processing, **425-15**
Trucks, peanut-cooling, food processing, **425-30**
Turning, automatic, lathes, safeguarding methods, **450-7**
Turning, lathes, covering, **450-6**
Two-hand control devices, mechanical power presses, **455-15**
Two-hand devices, **200-20**
Two-hand trip devices, mechanical power presses, **455-16**
Type 1 cutting off wheels, abrasive wheels, **405-15**
Type 6 wheels (terrazzo), **405-16**
Type 11 wheels (terrazzo), **405-16**
Type 27-a cutting-off wheels, **405-15**

U

Unintentional machine movement, **200-4**
Unitized tooling, mechanical power presses, **455-6**

V

Valves and switches, forging machines, **430-9**
Veneer machines, saws & cutting heads, **480-40-42**
Ventilation, doughnut machines, food processing, **425-18**
Vertical cutting heads, jointers, **480-34**
Vertical mixers, food processing, **425-26**
Vibrations, machine, **200-5**

W

Walking, prohibiting, roller conveyors, **420-22**
Waste (garbage) disposal, **435-1-2**
 (See also Requirements for all machines)
Wheels
 abrasive, mounting, **405-12**
 speed control, roller conveyors, **420-22**
Woodworking lathes, **450-6-7**
Work areas, avoid hazards, **200-2**
Work-holding devices (chucks),
 safeguarding, **450-3**
Work rest, off-hand grinding, **405-10**

Index



<http://www.lni.wa.gov/>

IN-11

01/05

Machine Safety

Chapter 296-806 WAC

Index

Index



1 • 800 • 4BE SAFE (1 • 800 • 423 • 7233)

IN-12

01/05